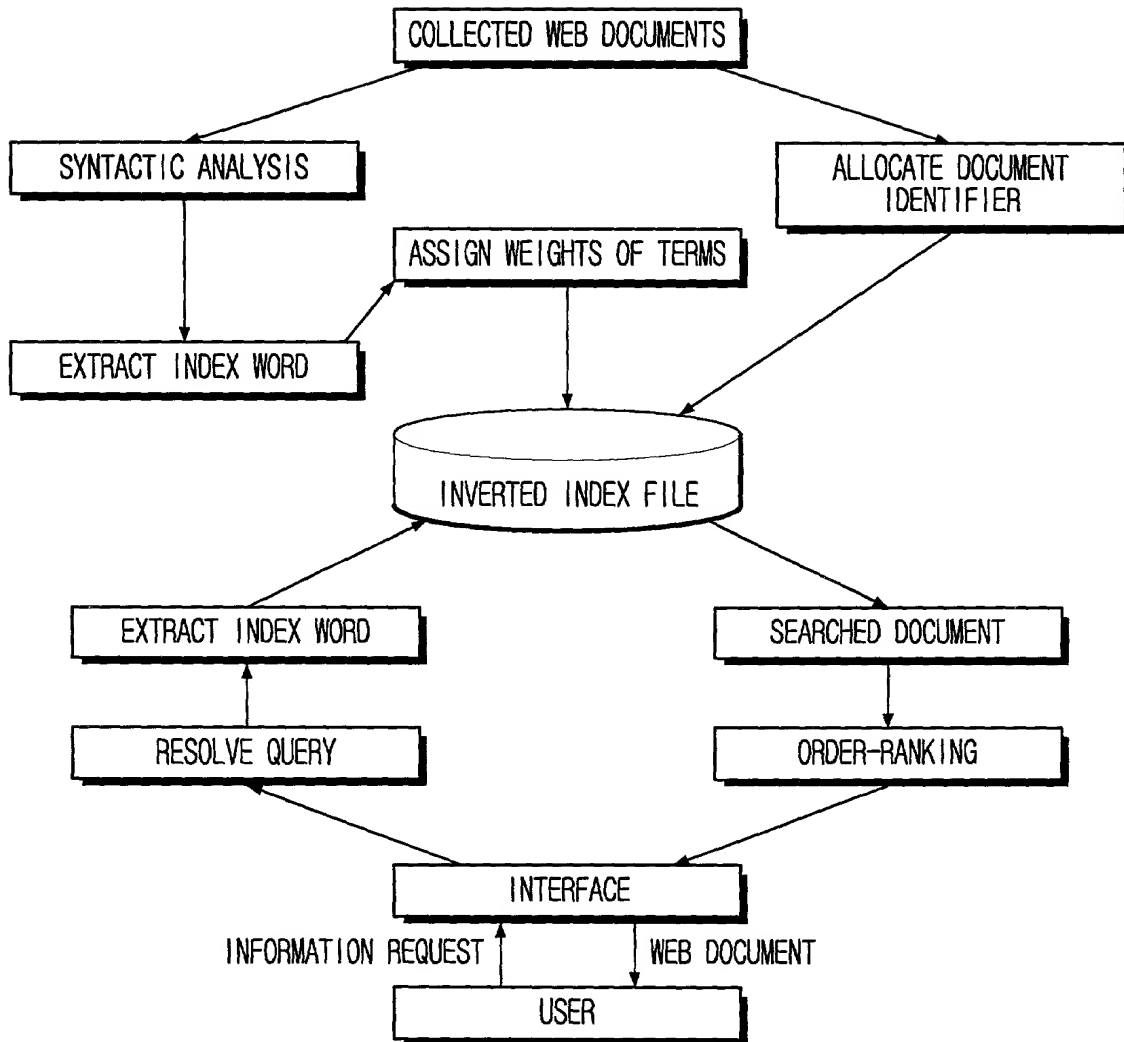
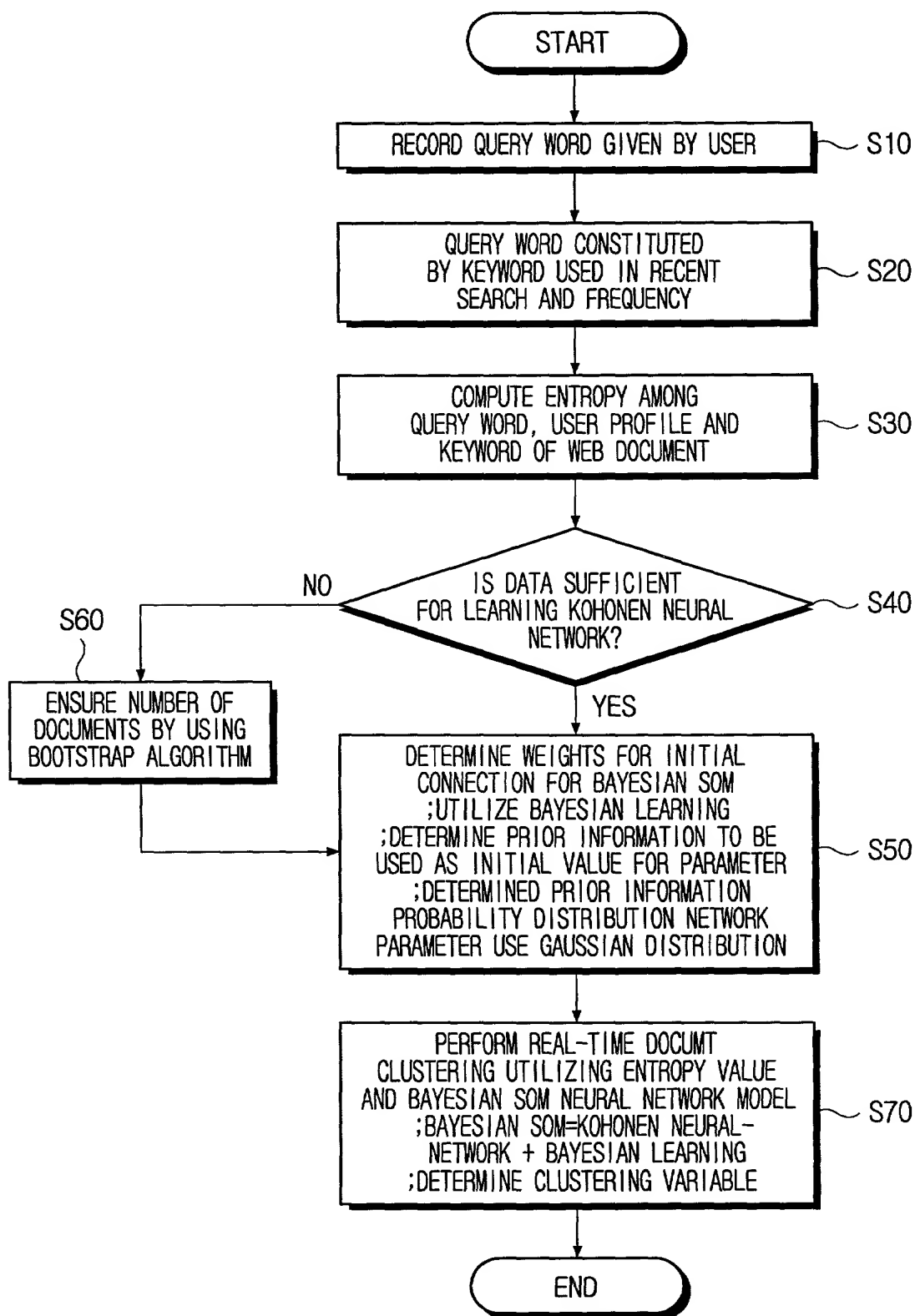


FIG. 1



0963450-081001

FIG. 2



05926150-004004

FIG. 3

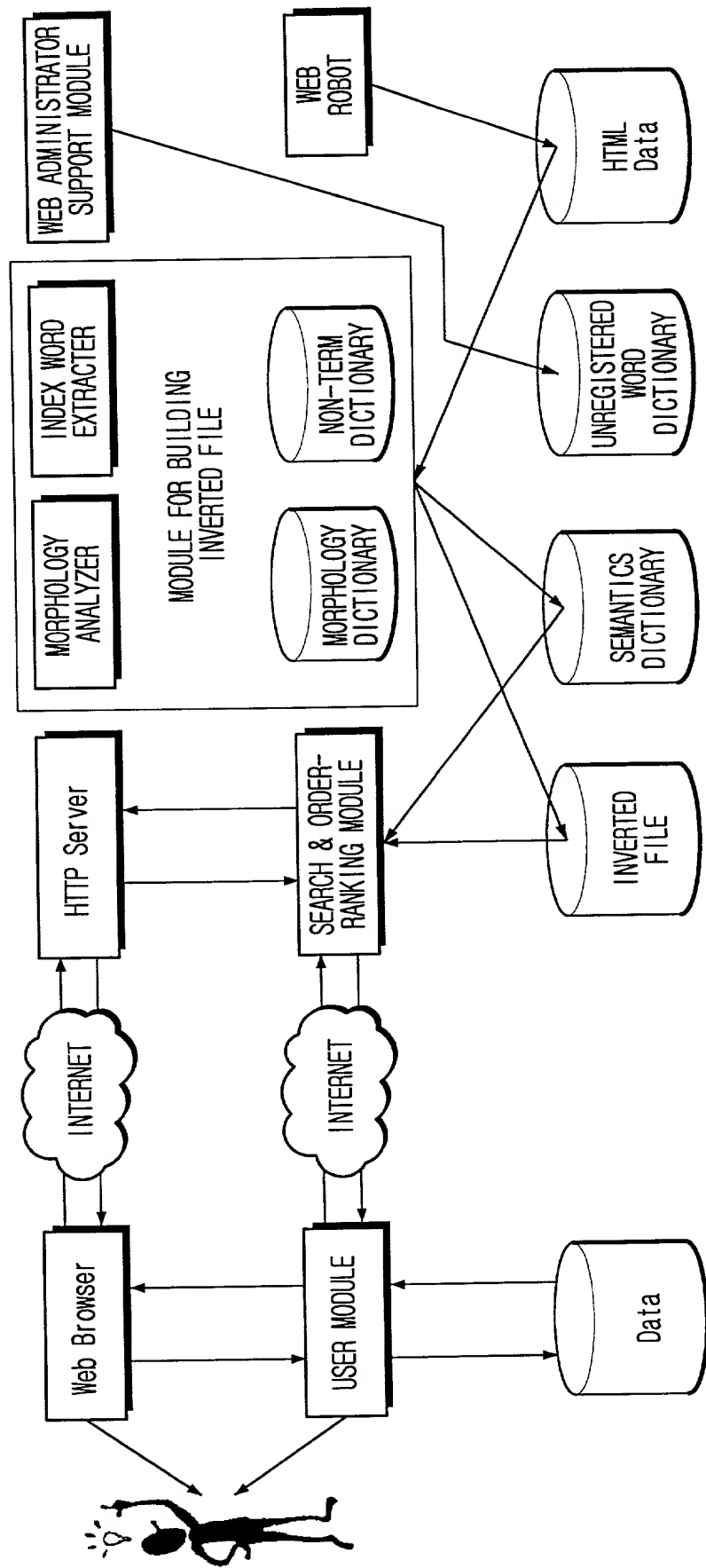


FIG. 4

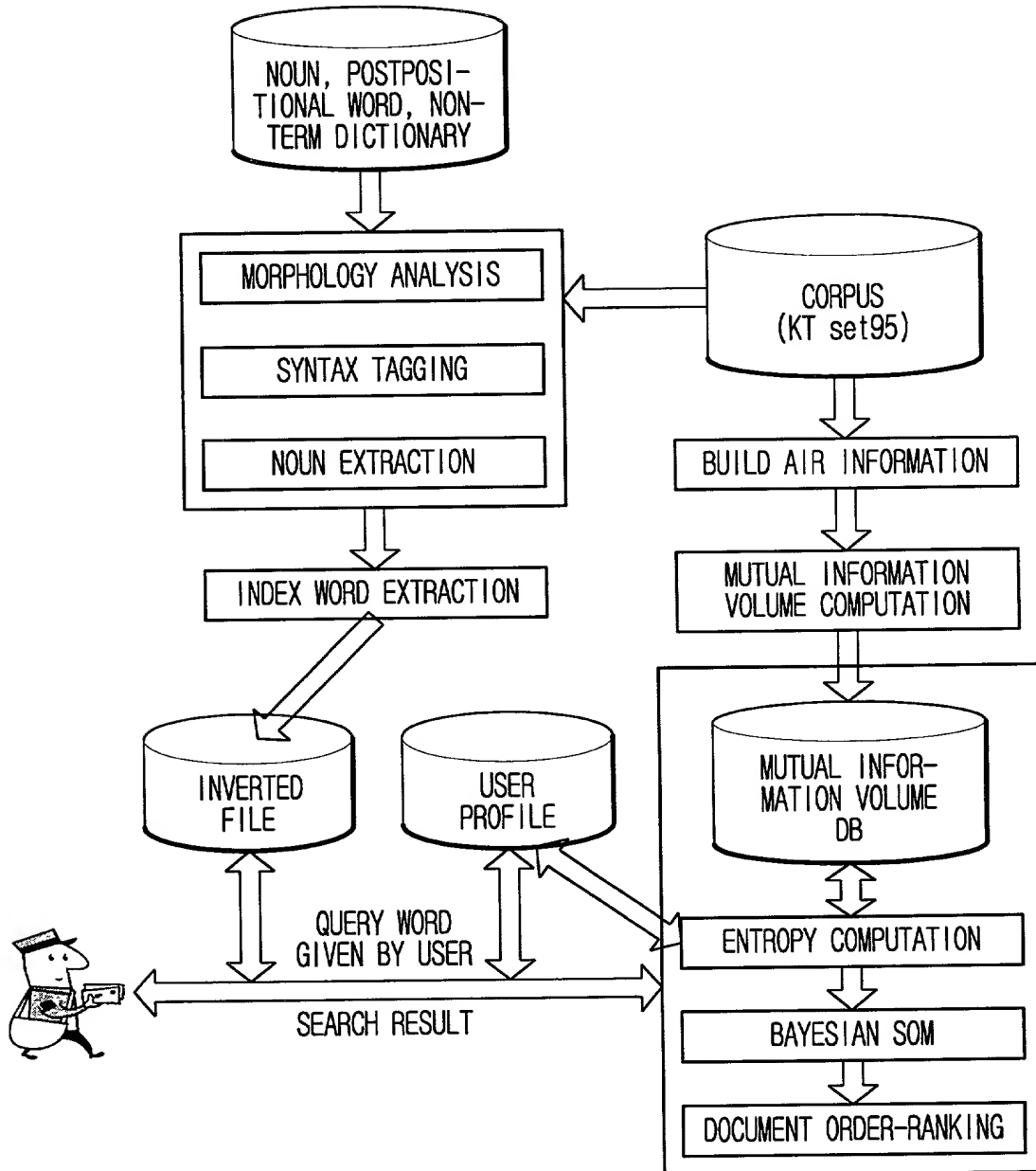


FIG. 5A

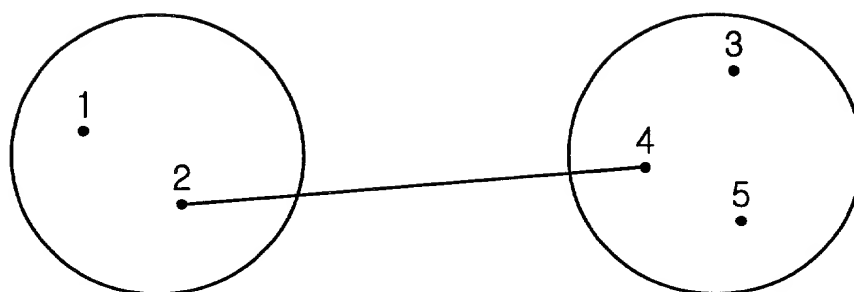


FIG. 5B

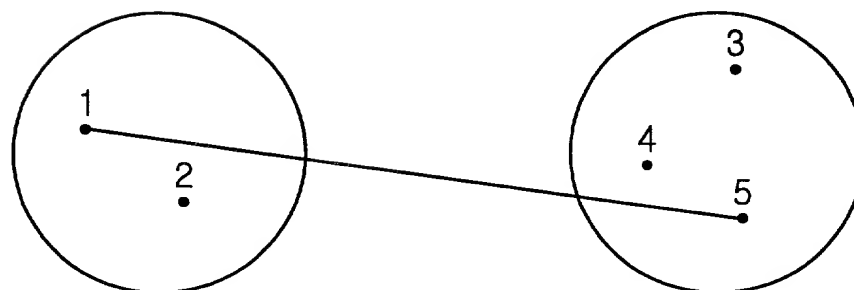


FIG. 5C

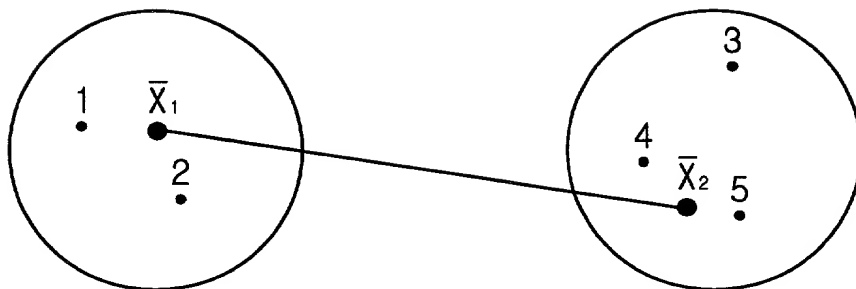


FIG. 5D

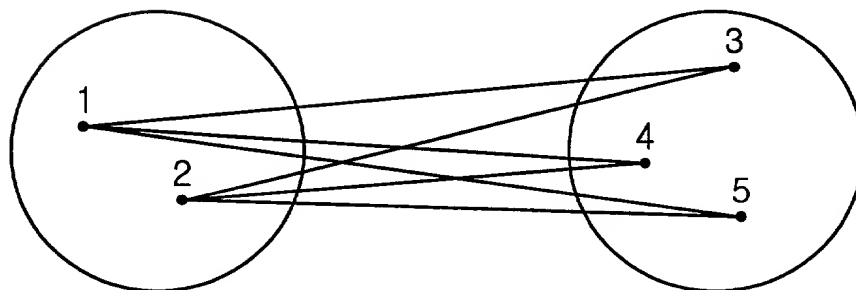


FIG. 6

```
Algorithm ClusteringofDocs(UserQryProfile[N], Ret_Docs[N])
// COMPUTE ENTROPY BY USING USER PROFILE AND KEYWORDS EXTRACTED
// FROM EACH DOCUMENT, AND PRODUCE DOCUMENT CLUSTER ACCORDING
// TO SIMILARITY
Set i, j, k to 0
for i = 1 to NumofRetDocs
  for j = 1 to NumofQuery
    for k = 1 to NumofTerms
      DocMatrix[i][j] = CalcEntropy(UserQryProfile[j],Ret_Docs[k]);
// COMPUTE P-NUMBER OF ENTROPY (KEYWORD, USER PROFILE), AND OBTAIN
// MATRIX HAVING SIZE OF N× P
Call CalcSim(Return SimDoc[NumofRetDocs], DocMatrix[j+k]);
// COMPUTE DISTANCE MATRIX HAVING SIZE OF N× N BETWEEN N-NUMBERS
// OF DOCUMENTS
for i = 1 to NumOfRetDocs
  Call CreatCluster(Return DocCluster[NumofCluster], SimDoc[i]);
  // FORM CLUSTER BASED ON DISTANCE MATRIX
for j = 1 to NumOfCluster
  Call CalcSim(UserQryProfile[NumofCluster], DocCluster[j])
// OBTAIN DEGREE OF SIMILARITY BETWEEN EACH CLUSTER AND QUERY WORD
// GIVEN BY USER, AND EACH CLUSTER AND USER PROFILE
End ClusteringofDocs
```

FIG. 7

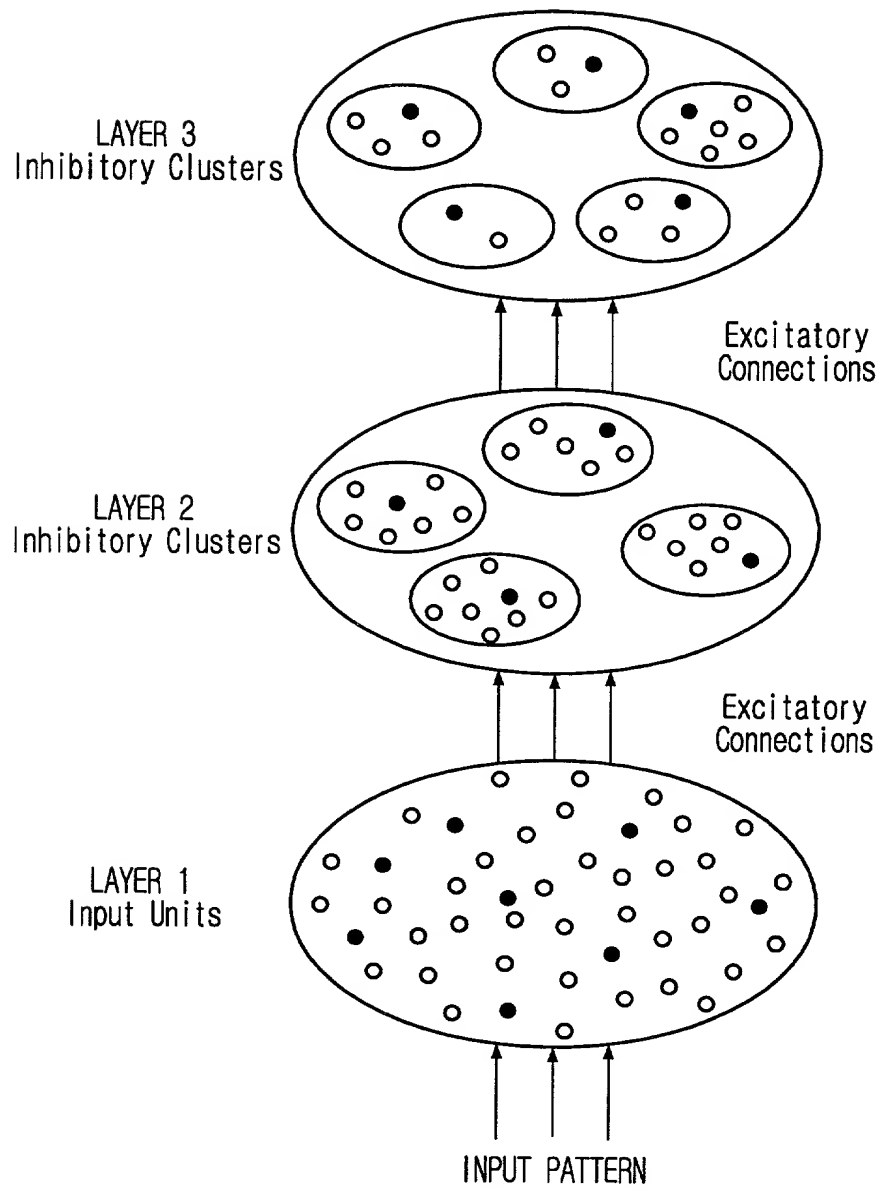


FIG. 8

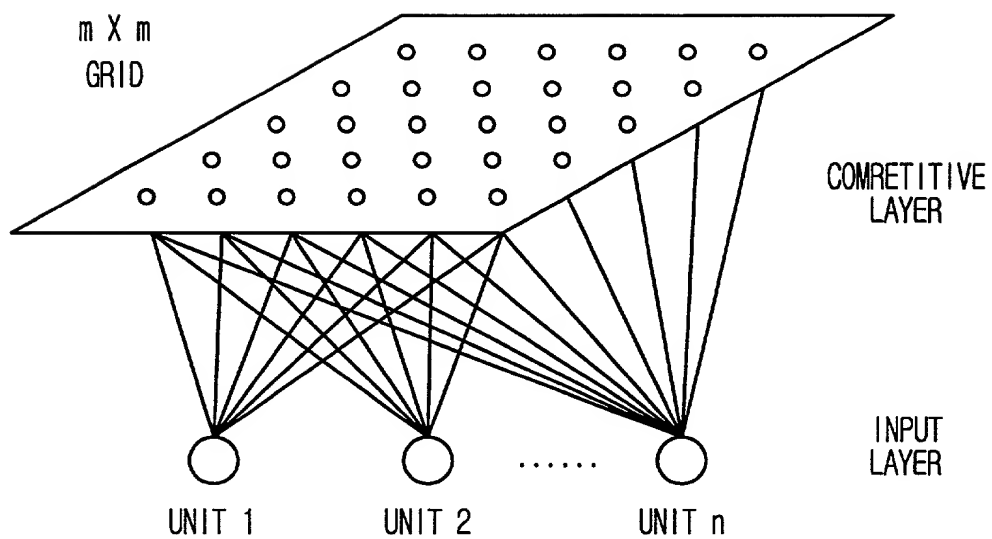


FIG. 9A

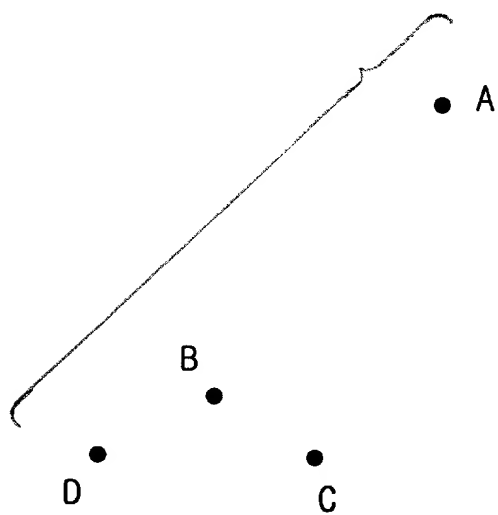


FIG. 9B

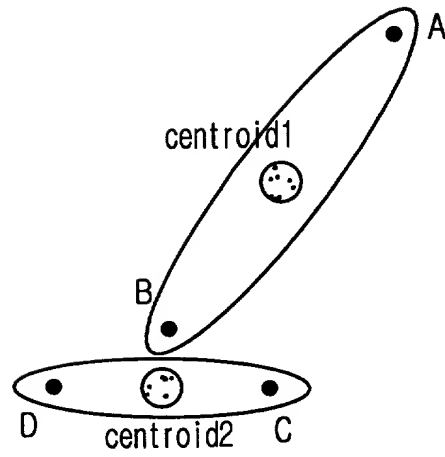


FIG. 9C

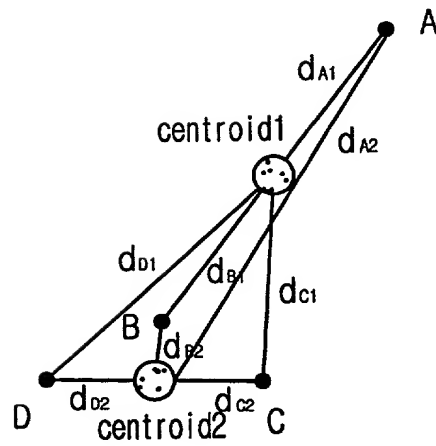


FIG. 9D

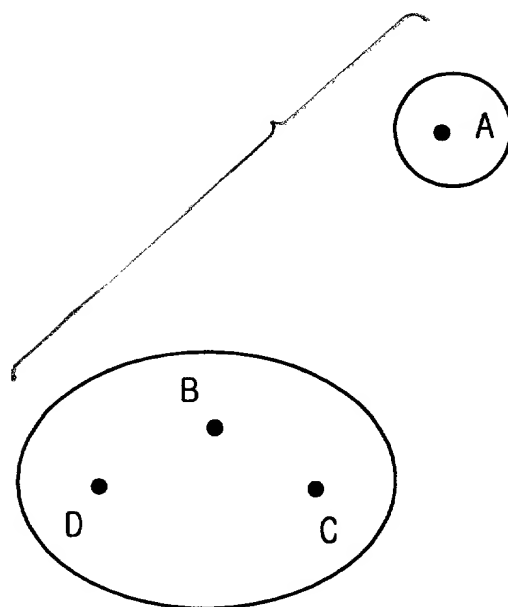


FIG. 10

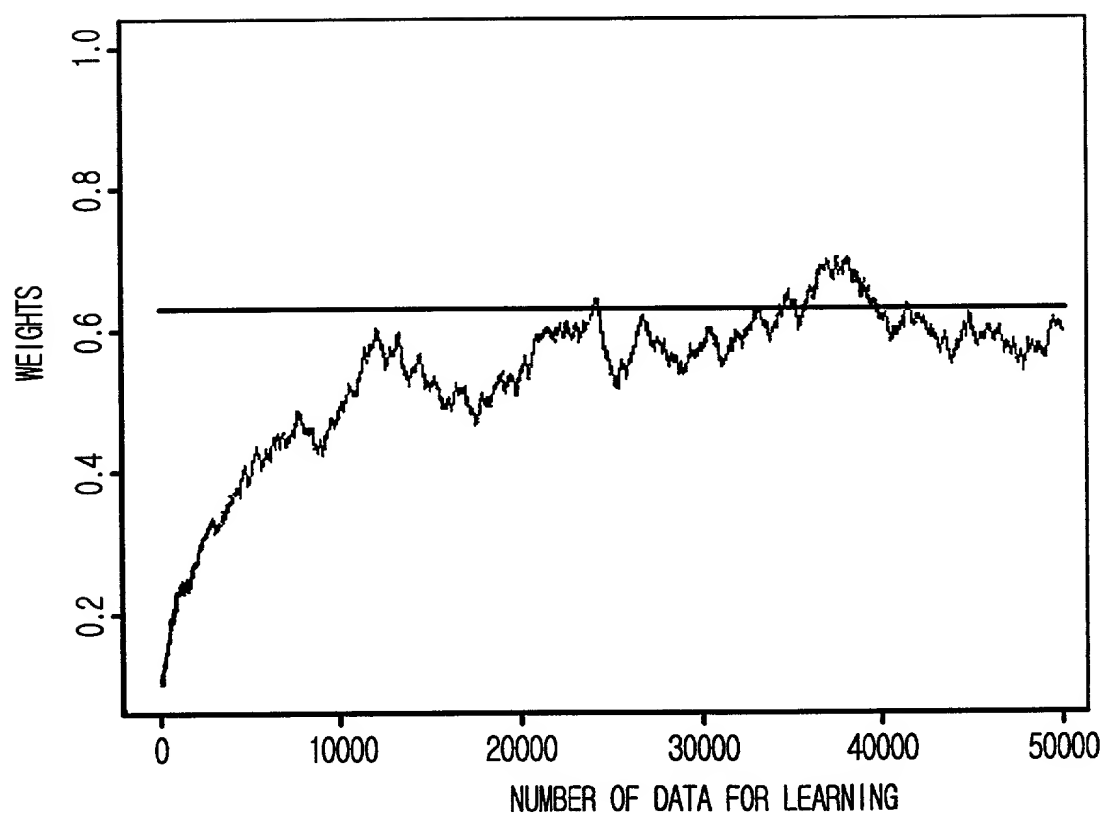


FIG. 11

```
Algorithm RankofCluster(Ret_Docs[N])
// DOCUMENT CLUSTER BY BAYESIAN SOM AND ORDER-RANKING ALGORITHM
set i, j, k to 0;
for i = 1 to k;
    for j = 1 to 3;
        Index_Vector[k][j] = ExtrOfIndex(Ret_Docs[k]);
        Call MutualInformation(User_Q[NumofQuery], Index_Vector[k][j]);
        DocEntropyVector[i][j] = CalculateEntropy(Ret_Docs[k]);
    end j;
endi;
if NumofData <= 30 Call BootStrap(DocEntropyVector[i][j]);
// PRODUCE SUFFICIENT DATA COLLECTION REQUIRED FOR LEARNING BAYESIAN
// BAYESIAN NEURAL NETWORK BY EMPLOYING STATISTICAL BOOTSTRAP ALGORITHM
// ALGORITHM IF DATA FOR LEARNING IS SMALL(FOR EXAMPLE, LESS THAN 30)
DecisionOfInitialWeight();
// DETERMINE INITIAL WEIGHTS FOR KOHONEN NETWORK BY UTILIZING PRIOR
// DISTRIBUTION OF BAYESIAN. THAT IS, AVERAGE IS ZERO, AND INERSE NUMBER
// OF SQUARE ROOT OF NUMBER OF NODES OF KOHONEN LAYER IS UTILIZED
// AS STANDARD DEVIATION
Call BayesianSOM();
for i = 1 to NumOfCluster;
    CalculationOfNorm(Cluster[NumOfCluster]);
end i;
RankOfCluster(Value_of_Norm[NumOfCluster]);
// RE-RANK DOCUMENT CLUSTER HAVING HIGH SIMILARITY TO QUERY WORD
// GIVEN BY USER
End Rank_of_Cluster
```